UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

IN RE INTERCEPT PHARMACEUTICALS, INC. SECURITIES LITIGATION	:	14 Civ. 1123 (NRB) ECF Case **EXPERT DECLARATION OF PAUL A. GOMPERS**

EXPERT DECLARATION OF PAUL A. GOMPERS IN SUPPORT OF DEFENDANTS' OPPOSITION TO PLAINTIFFS' MOTION FOR CLASS CERTIFICATION

I, Paul A. Gompers, hereby declare as follows pursuant to 28 U.S.C. § 1746:

I. Qualifications

1. I am the Eugene Holman Professor of Business Administration at the Harvard Business School. I submitted an expert report in this matter on September 14, 2015 ("Gompers Initial Report").

2. An updated list of my testimony over the last four years is attached as **Appendix B**. A list of additional documents and data I considered in forming the opinions in this declaration is attached as **Appendix C**. I reserve the right to revise my opinions if I learn of additional relevant information, or if I am asked to perform further research or analysis.

II. Summary of Opinions

3. Repeated attempts to mischaracterize my analysis and testimony, as well as academic literature on market efficiency, render the additional opinions and analysis presented in the Reply Declaration of Dr. Steven Feinstein filed on October 14, 2015 ("Feinstein Reply Declaration") misleading. Some of these mischaracterizations are addressed herein, and others are briefly summarized in the chart attached as **Appendix A**. As I concluded in my Initial Report, Dr. Feinstein has not established that Intercept's stock traded in an efficient market during the Class Period and the one-year period surrounding the Class Period

("Examination Period").

III. Financial Economists Do Not Accept Dr. Feinstein's Changed Definition of Market Efficiency

4. In his initial declaration submitted on July 15, 2015 ("Feinstein Initial Declaration"), Dr. Feinstein adopted the following definition of an efficient market: "[a market] which rapidly reflects new information in price" **and** "a market in which prices **always 'fully reflect'** available information."[1] Yet, in his Reply Declaration, Dr. Feinstein now argues that rapid and full price adjustment to new information is not necessary and "a protracted reaction to an information disclosure is consistent with informational efficiency."[2] He claims that academic literature does not support the statement—which he incorrectly attributes to me—that "in an efficient market a stock price must fully incorporate new news *instantaneously*."[3] This misconstrues my definition of an efficient market and the definition accepted by financial economists: stock prices must fully incorporate news quickly, whether it is within minutes or hours, but certainly no more than one trading day.[4]

5. The academic literature to which Dr. Feinstein cites, purportedly to support his new market efficiency definition, actually contradicts his assertion, as do several other studies of market efficiency.[5] The *Amici Curiae* Brief does not suggest that slow or incomplete price reactions are consistent with semi-strong form market efficiency, the form of efficiency adopted in the Feinstein Initial Declaration.[6] Contrary to Dr. Feinstein's claim that "in a semi-strong version of an efficient market" new information does not need to elicit "an immediate response and certainly the full adjustment to new news is not always

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[1] Feinstein Initial Declaration, ¶30 (Emphasis added).
[2] Feinstein Reply Declaration, ¶¶34-35.
[3] Feinstein Reply Declaration, ¶34 (Emphasis added).
[4] Gompers Initial Report, ¶¶9, 24.
[5] Feinstein Reply Declaration, ¶¶35-37.
[6] Feinstein Initial Declaration, ¶30. A semi-strong form efficient market is "one in which the stock price fully and rapidly reflects all publicly available information that is relevant to the stock." Gompers Initial Report, ¶20 and fn. 22.

instantaneous,"[7] the authors explicitly state that "[semi-strong form efficiency] entails that the market price **instantly** (or at least very quickly) and **fully** incorporates all publicly available information about the stock. **It does not tolerate even modest lags** or other anomalies."[8]

6. Woodruff and Senchack's statement regarding "the [price] adjustment process lasting only two days" merely reflects an approach taken by the authors for the purpose of measuring stock price reactions to earnings surprises.[9] In fact, the authors find that "**most of the adjustment** occurred within a few hours during the announcement day"[10] and "while the adjustment was not 'instantaneous,' it did occur **rapidly**."[11] Their comment that the adjustment process to earnings surprises "may in fact occur over a much longer time period" as "analysts digest the new information, revise their expectations, and issue new recommendations"[12] only notes the possibility that changes in analyst expectations and new recommendations can have an additional impact on the stock price if they contain new, value-relevant information, which Dr. Feinstein has not shown.[13] Therefore, the authors' comment does not justify Dr. Feinstein's claim that price adjustments can take two days in an efficient market, or explain Intercept's stock price changes on the second day of his event windows.

7. Patell and Wolfson conclude that there are "elevated returns during the overnight period following the release [of earnings announcements] and at the opening of trading on the

[7] Feinstein Reply Declaration, ¶18.

[8] Brief of Financial Economists as *Amici Curiae* in Support of Respondents, *Halliburton Co. and David Lesar v. Erica P. John Fund, Inc., F/K/A Archdiocese of Milwaukee Supporting Fund, Inc.*, February 5, 2014 ("Halliburton II Amici Curiae"), p. 5 (Emphasis added).

[9] Feinstein Reply Declaration, ¶37.

[10] Woodruff, C. and A. Senchack (1988), "Intradaily Price-Volume Adjustments of NYSE Stocks to Unexpected Earnings," *The Journal of Finance*, 43(2), pp. 467-491 at 487 (Emphasis added).

[11] Woodruff, C. and A. Senchack (1988), "Intradaily Price-Volume Adjustments of NYSE Stocks to Unexpected Earnings," *The Journal of Finance*, 43(2), pp. 467-491 at 487 (Emphasis added). Gompers Initial Report, ¶23.

[12] Woodruff, C. and A. Senchack (1988), "Intradaily Price-Volume Adjustments of NYSE Stocks to Unexpected Earnings," *The Journal of Finance*, 43(2), pp. 467-491 at 487-490.

[13] As I testified at my deposition, a change in analyst expectations or price targets is not new, value-relevant information about a company unless the analyst expectations or price targets are **based on** new, value-relevant information disclosed for the first time in the analyst report. Deposition Testimony of Paul Gompers, October 2, 2015 ("Gompers Deposition"), 297:13-20; 299:8-300:19; 316:25-319:20. *See also* ¶14 below.

next day."[14] However, rather than attributing this "protracted reaction" to "the nature and importance of the announcements and disclosures" as Dr. Feinstein does, Patell and Wolfson associate it with "investors who are unable to execute intraday trading strategies, and [whose] actions may affect the overnight price change and the opening trades of the next day."[15] Patell and Wolfson used data from 1976 and 1977 in their research. It is unlikely that the impediments to trading that existed in 1976–1977 and affected Patell and Wolfson's results were relevant during the Class Period.[16] In addition, Patell and Wolfson find that the price impact disappears after the first 30 minutes of the market opening on the second day, whereas the significant returns that Dr. Feinstein calculates on the second day of his event windows are based on price movements that continue throughout the day.

8. Several academic studies similarly contradict Dr. Feinstein's assertion that stock prices can take more than one day to react to new information in an efficient market. Bodie et al. (2011) state that in an efficient market "there is no further drift in prices after the announcement date, suggesting that prices reflect the new information… by the end of the trading day."[17] Similarly, Tetlock (2011) states that "[i]n an efficient market where firms' stock prices rapidly incorporate all value-relevant signals, new information becomes stale information almost instantly."[18] Greene and Watts (1996) and Busse and Green (2002) also

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[14] Patell, J. and M. Wolfson (1984), "The Intraday Speed of Adjustment of Stock Prices to Earnings and Dividend Announcements," *Journal of Financial Economics*, 13(2), pp. 223-252 at 224.

[15] Patell, J. and M. Wolfson (1984), "The Intraday Speed of Adjustment of Stock Prices to Earnings and Dividend Announcements," *Journal of Financial Economics*, 13(2), pp. 223-252 at 235. Further, Dr. Feinstein does not include the inability to execute intraday trading strategies among his purported reasons for using two-day event windows, making his reliance on Patell and Wolfson unfounded.

[16] The academic literature recognizes that "[a]s technological advancements in financial markets have shortened [the] perception of 'very quickly' since Patell and Wolfson (1984), our results show that the amount of time necessary for prices to incorporate news has also decreased." Busse, J. and T. Green (2002), "Market efficiency in real time," *Journal of Financial Economics,* 65(3), pp. 415-437 at 416. *Also see* Gompers Initial Report, fn. 31.

[17] Bodie, Z. et al. (2011), *Investments, Ninth Edition*, McGraw-Hill/Irwin, p. 345 (citing Keown and Pinkerton (1981)).

[18] Tetlock, P. (2011), "All the News That's Fit to Reprint: Do Investors React to Stale Information?" *The Review of Financial Studies*, 24(5), pp. 1481-1512 at 1481. Gompers Initial Report, fn. 76.

find that new information is fully impounded in stock prices within minutes or hours.[19]

9. Given this wealth of academic literature, Dr. Feinstein's attempt to redefine market efficiency is unsupported and does not justify his use of two-day event windows. Plaintiffs' claim that I "agree[d] that event studies often use a two-day window, the date of the announcement and the day after"[20] in the *Carpenters Pension Tr. Fund of St. Louis v. Barclays PLC* matter is incorrect and mischaracterizes my report and testimony in that matter. I only testified consistent with my report in that case that academic studies use two-day event windows when it is not known "whether [the announcement] happened during market trading hours or after market [trading] hours."[21,22]

IV. Dr. Feinstein's Claims Regarding Additional Factors that Affect the Speed of Stock Price Adjustment to New Information Are Without Basis

10. Dr. Feinstein introduces various "factors" that he claims could justify "protracted and continuing impact on the stock price" for Intercept stock:[23] surprising and complex information, "less regular" announcements, the nature and importance of the announcements and disclosures, the manner in which they were made and disseminated to investors, whether the valuation impact is easily understood, the existence of confounding discovery, the source and availability of the disclosure, and contemporaneous commentary regarding stock price movement.[24] Yet, he does not present any relevant evidence that analyzes or supports the role of these alleged factors in determining how long a stock takes to incorporate new

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[19] Gompers Initial Report, ¶23.
[20] Plaintiffs' Reply Memorandum in Support of Motion for Class Certification and Appointment of Class Representatives and Class Counsel, October 14, 2015 ("Plaintiff's Reply"), p. 6.
[21] Deposition Testimony of Paul Gompers, Ph.D., *Carpenters Pension Trust Fund of St. Louis, et al. v. Barclays PLC, et al.*, Case No. 1:12-cv-5329-SAS, June 18, 2015 (As Appendix A to Reply Declaration of David A. Rosenfeld dated June 26, 2015), 254:8-25. I also explained in my expert report in the same matter that two-day event windows are used "to capture the price effects of announcements which occur after the stock market closes on the announcement day." Declaration of Paul A. Gompers, Ph.D., *Carpenters Pension Trust Fund of St. Louis, et al. v. Barclays PLC, et al.*, Case No. 1:12-cv-5329-SAS, March 3, 2015, fn. 68.
[22] As explained in my Initial Report, the exact timing of the release of new information is known in this case. Therefore, Dr. Feinstein's use of two-day event windows has no basis. Gompers Initial Report, ¶¶45-49.
[23] Feinstein Reply Declaration, ¶55.
[24] Feinstein Reply Declaration, ¶¶32, 34, 36, 38.

information in an efficient market.[25]

11. The efficient market hypothesis, by definition, is not premised on any of the factors that Dr. Feinstein has identified. Rather, semi-strong form market efficiency is premised on whether information is publicly available.[26] In an efficient market, informed investors compete with each other to take advantage of and eliminate unexploited profit opportunities, causing stock prices to rapidly and fully incorporate new value-relevant information.[27] This is why "[the efficient market hypothesis] does not tolerate even modest lags."[28] As stated by Nobel Laureate Eugene Fama, "event studies on daily returns" offer the "[t]he cleanest evidence on market efficiency" and "give a clear picture of the speed of adjustment of prices to information."[29] I am not aware of any academic literature, and Dr. Feinstein has not presented any, that focuses on Dr. Feinstein's "factors" in determining the length of the event window when the timing of the release of new information could be precisely determined.

12. Dr. Feinstein then asserts for the first time in his Reply Declaration that Intercept's stock price did not have to "fully incorporate and reflect a disclosure" because Intercept's NASH efficacy announcement on January 9, 2014 was "momentous," analyst reports issued on January 13 and 14, 2014 downplayed the potential impact of the January 10 and 12, 2014 negative disclosures regarding OCA and the FLINT trial, and the Favus report was not "publicly available" on May 16, 2014.[30]

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[25] Dr. Feinstein, for example, cites to the Patell and Wolfson study that states: "It is possible that the adjustment intervals would be significantly longer for smaller firms, or for other, less regular [earnings] announcements made by our sample firms." Feinstein Reply Declaration, ¶36. The authors, however, were merely explaining the scope of their study and did not reach any conclusions that firm size or announcement regularity has any impact on a market efficiency analysis. Moreover, Dr. Feinstein asserts Intercept's market capitalization as of January 2014 was $8.64 billion (Feinstein Initial Declaration, ¶26) and he has not performed any analysis to determine how "regular" Intercept's earnings announcements were during the relevant period. Thus, Dr. Feinstein's reliance on Patell and Wolfson is unfounded.

[26] Gompers Initial Report, ¶20 and fn. 22; Halliburton II Amici Curiae, p. 5.

[27] Gompers Initial Report, ¶¶20-22.

[28] Halliburton II Amici Curiae, p. 5.

[29] Fama, E. (1991), "Efficient Capital Markets: II," *The Journal of Finance*, 46(5), pp. 1575-1617 at 1607; Gompers Initial Report, fn. 33.

[30] Feinstein Reply Declaration, ¶¶55, 57, 60, 65.

13. If momentous events had a continuing (i.e., two-day) impact on stock prices as Dr. Feinstein claims, then investors who determined that an event is "momentous" on the first day could profitably trade on that information the following day, in direct contradiction of the efficient market hypothesis. Consistent with this, academic literature has used one-day event windows when analyzing the stock price response to "momentous" events. For example, Huberman and Regev (2001) focused on one trading day when the initial news of the potential breakthrough in the cure for cancer was released, an obviously momentous event.[31]

14. In addition, Dr. Feinstein does not present any basis for his assertion that Intercept's stock price decline on January 14 was due to a protracted stock price impact caused by analyst reports downplaying the impact of the lipid abnormalities. In fact, academic studies analyzing the impact of analyst reports on stock prices conclude that "influential recommendation changes come only from a subset of skilled analysts" and "the impact of recommendation changes is affected by the content of analyst reports."[32] In an efficient market, such reports would elicit a significant stock price reaction only if the analyst recommendation changes constituted new and value-relevant information about the stock,[33] which Dr. Feinstein has not shown. He has not analyzed the characteristics of the analysts or the content of the analyst reports, and thus has no basis to conclude that analysts allegedly downplaying the lipid abnormalities were responsible for the protracted stock price reaction.

15. Dr. Feinstein's opinion on what constitutes publicly available information is also unsupported by his citations or academic literature. He cites to my deposition testimony where I describe how financial economists generally **identify** publicly available information about a company to suggest that information needs to be disseminated to all market

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[31] Huberman, G. and T. Regev (2001), "Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar," *The Journal of Finance*, 56(1), pp. 387-396 at 390.
[32] Loh, R. and R. Stulz (2011), "When Are Analyst Recommendation Changes Influential?" *The Review of Financial Studies*, 24(2), pp. 593-627 at 595-6 (also citing to Asquith, et al. (2005)).
[33] Gompers Deposition, 297:13-20; 299:8-300:19; 316:25-319:20.

participants through the Factiva database or analyst reports to be fully public.[34] This opinion mischaracterizes my testimony; I never testified that the appropriate **test** for whether information is "publicly available" is whether it is available on Factiva.[35]

16. As I testified at my deposition, information that is only known by some investors is still public information.[36] In particular, information known by a small number of informed investors with an incentive to act on the information is sufficient for prices to reflect all public information.[37] Consistent with my testimony, the academic literature does not propose dissemination to all market participants as a prerequisite to market efficiency. For example, Mishkin (2001) explains that "not everyone in a financial market must be well informed about a security… for its price to be driven to the point at which the efficient markets condition holds…. As long as a few keep their eyes open for unexploited profit opportunities, they will eliminate the profit opportunities that appear because in so doing, they make a profit. The theory of efficient markets makes sense because it does not require everyone in a market to be cognizant of what is happening to every security."[38]

17. Similarly, the *Amici Curiae* Brief, upon which Dr. Feinstein relies, states that "[e]ven though an investor has neither the time, money, nor intelligence to assimilate the mass of information in the registration statement, there will be those who can and who will do so, whenever there is a broad market. The judgment of those experts will be reflected in the market price."[39] Thus, any new value-relevant information contained in the Favus report released at market close on May 16, 2014 to over 200 clients, including institutional investors

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[34] Feinstein Reply Declaration, ¶65.
[35] Gompers Deposition, 128:16-21.
[36] Gompers Deposition, 127:7-128:9.
[37] Gompers Deposition, 291:4-9.
[38] Mishkin, F. (2001), *The Economics of Money, Banking, and Financial Markets, Sixth Edition*, Addison-Wesley, p. 700; Gompers Initial Report, ¶¶20-22. *Also see*, Huberman, G. and T. Regev (2001), "Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar," *The Journal of Finance*, 56(1), pp. 387-396 at 388.
[39] Halliburton II Amici Curiae, p. 13 (citing to William O. Douglas (1934)).

with collectively more than $100 billion in assets[40] should have been fully reflected in Intercept's stock price on May 19, 2014 if the stock traded in an efficient market. This is no different from the use of analyst reports of limited distribution as a source of information about a stock.

V. Dr. Feinstein's Selection of Events for His Event Study Analysis Is Biased

18. In response to my criticism of Dr. Feinstein's event selection based on the allegations made in the complaint with prior knowledge that the dates he analyzed are associated with large stock price movements,[41] Dr. Feinstein puts forth a new argument in his Reply Declaration that "for a development stage company like Intercept…[to] test the efficiency of the market for Intercept stock, one should examine dates on which Intercept disclosed new information concerning its lead product candidate, as I did."[42] However, Dr. Feinstein's event selection is inconsistent with the criterion he now espouses, as he clearly has not considered all releases of new information on OCA during his Examination Period, focusing instead solely on the three allegation-related events.[43]

19. As I explained in my initial Report and at my deposition, Dr. Feinstein has evaluated only those dates identified in the Complaint, days which he knew *ex ante* were associated with large returns.[44] Using event selection criteria to capture days known to be associated

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[40] Affidavit of Elliot Favus, M.D., September 10, 2015.
[41] *See* Gompers Initial Report, ¶¶38-40.
[42] Feinstein Reply Declaration, ¶30. He further states that "[b]ecause Intercept essentially had only a single product in development, OCA, and did not produce positive earnings during the relevant periods (nor was it expected to), it was product development news, not current earnings news, that drove the stock price." Feinstein Reply Declaration, ¶22.
[43] For example, Dr. Feinstein ignored candidate product development events on 4/11/14, 5/6/14, and 5/28/14, where Intercept disclosed news related to OCA's clinical trials and potential FDA approval. None of these disclosures resulted in significant returns of Intercept's stock price. *See*, Intercept Pharmaceuticals, Inc. Press Release, "Intercept Announces Preclinical Data Demonstrating OCA's Potential Role in Preventing Complications of Cirrhosis," April 11, 2014; Intercept Pharmaceuticals, Inc. Press Release, "Intercept Reports Additional Positive OCA Data in Patients With Bile Acid Diarrhea at Digestive Disease Week," May 6, 2014; Intercept Pharmaceuticals, Inc. Press Release, "Intercept Announces that FDA Grants Fast Track Designation to Obeticholic Acid for the Treatment of Patients with Primary Biliary Cirrhosis," May 28, 2014.
[44] Gompers Initial Report, ¶38-40; Gompers Deposition, 194:10-195:20.

with large returns suffers from selection bias, in this case hindsight bias, and is unscientific.[45] Dr. Feinstein has only confirmed that the large price changes alleged in the Complaint were statistically significant. His event study does not show the required consistent relationship over time between new news and a change in Intercept's stock price that he espouses.[46]

VI. Dr. Feinstein's Criticism of My Stale News Analysis Methodology Fails to Disprove the Validity of My Conclusions

20. As part of my evaluation of Dr. Feinstein's event study, I conducted a stale news analysis[47] over the Examination Period that first identified days on which Intercept's stock returns were statistically significant using Dr. Feinstein's regression model. I then determined whether these significant returns corresponded to the arrival of new information.[48] This approach of reviewing news to determine what could have caused a stock price movement is grounded in academic literature.[49] As Huberman and Regev (2001) state, "in hindsight at least, we should be able to ascribe price changes to the arrival of specific new information [in an efficient market]."[50]

21. Dr. Feinstein claims that I cherry-picked the events to examine for my stale news analysis by "first observing the price reaction on the subject event dates (a 'backward' event

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[45] Gompers Initial Report, ¶38-40.

[46] Gompers Initial Report, ¶37. As Dr. Feinstein cited in his Initial Declaration, the fifth Cammer factor states that "one of the most convincing ways to demonstrate efficiency would be to illustrate, **over time**, a cause and effect relationship between company disclosures and resulting movements in stock price." Feinstein Initial Declaration, ¶¶40, 82 (Emphasis added).

[47] Gompers Deposition, 182:22-183:2. I used this approach because I determined that there was no new information in the disclosures identified by Dr. Feinstein on the second day of each of his event windows. As discussed in my Initial Report, the disclosures that Dr. Feinstein identified on the second day merely reiterated stale information. Hence, I wanted to examine if there were other occasions on which Intercept's stock price appeared to be reacting to disclosures of stale information. Gompers Initial Report, ¶¶65-73.

[48] Gompers Deposition, 183:25-184:7; 185:7-18.

[49] For example, Huberman and Regev (2001) investigated the news, including stale news, surrounding three large stock return events for EntreMed to determine what had moved its stock price. Similarly, Marshall et al. (2014) analyzed the abnormal stock returns for United Airlines when the apparent news causing the reactions was the re-release and subsequent retraction of stale news. *See* Gompers Initial Report, ¶¶58-59. Huberman, G. and T. Regev (2001), "Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar," *The Journal of Finance*, 56(1), pp. 387-396; Marshall, B. et al. (2014), "Sell the rumour, buy the fact?" *Accounting & Finance*, 54(1), pp. 237-249.

[50] Huberman, G. and T. Regev (2001), "Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar," *The Journal of Finance*, 56(1), pp. 387-396 at 387.

study)" and then searching for news that was released on those dates.[51] In doing so, he overlooks the fact that how an event study is implemented depends on the question to be addressed. Dr. Feinstein conducted an affirmative event study to test whether there was a "cause and effect relationship between new, Company-specific information and movements in the price of Intercept stock."[52] As I explained at my deposition, for his purpose, it would be inappropriate to select dates based on stock returns.[53] In contrast, I did not, and did not claim to, conduct an affirmative event study for my stale news analysis.[54] Instead, I wanted to determine whether significant Intercept stock returns could be attributed to stale news outside of the second-day reactions to the initial allegation-related disclosures identified in Dr. Feinstein's event windows.[55] Because I wanted to determine the causes of significant Intercept stock returns, it was appropriate first to identify significant stock returns and then determine their causes.[56] If Dr. Feinstein's conclusion that Intercept's stock traded in an efficient market during his Examination Period is correct, then the significant returns should be caused by the release of new information and not the re-release of stale information.

22. Dr. Feinstein also criticizes my stale news analysis by identifying publications released on the "stale news" dates that I purportedly ignored.[57] As I stated in my initial Report and at my deposition, I carefully reviewed all news and disclosures relevant to Intercept on the stale news days in question, including analyst reports, to determine whether the disclosures contained any value-relevant news and what could be causing the price reaction.[58] Moreover, all of the publications with potentially value-relevant information that

[51] Feinstein Reply Declaration, ¶11, fn. 64-65.
[52] Feinstein Initial Declaration, ¶¶17, 151.
[53] Gompers Deposition, 99:17-100:21.
[54] Gompers Deposition, 174:19-176:8.
[55] *See* Gompers Initial Report, Exhibits 5A-5C.
[56] *See* fn. 49-50 above.
[57] Feinstein Reply Declaration, ¶¶94, 98.
[58] Gompers Deposition, 185:7-18; Gompers Initial Report, Exhibits 5A-5C.

Dr. Feinstein claims I ignored were released after market close on the day in question and thus cannot explain the price reaction on that day. Specifically, he identifies three disclosures on October 1, 2013, all of which were released after the market closed on this date.[59] The Wedbush analyst report he identifies on April 22, 2014 was similarly released after market close on that date.[60]

23. Dr. Feinstein also claims that my stale news methodology is unable to differentiate between random volatility and a reaction to stale news. He argues that "5% of all non-news dates will be statistically significant by design, on account of random volatility,"[61] and that since there are 252 trading days in his Examination Period, "one would expect there to be approximately 12 days [or 5% of the days] during this period where Intercept's stock has a statistically significant residual return that is not due to new, Company-specific news."[62] Dr. Feinstein's argument mischaracterizes the meaning of a 95% confidence level. The use of a 95% confidence level to determine statistical significance means that regardless of whether new value-relevant information was disclosed on some of the days included in the regression analysis, approximately 5% of all days included in the regression analysis will be found to have statistically significant residual returns. It does **not** mean that 5% of all days will have statistically significant returns that were **in fact** caused by pure chance.

24. Dr. Feinstein also incorrectly asserts that "the 95% confidence level one could claim in a properly conducted event study"[63] does not apply to my stale news analysis and my

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[59] These include an Intercept press release titled "Additional Results of Global Primary Biliary Cirrhosis Study Group Analysis to be Presented at AASLD Annual Meeting," an SEC Form 8-K filed by Intercept, and an SEC Form S-1 filed by Intercept. Feinstein Reply Declaration, ¶94. The press release was available at 4:05 PM ET. *See*, "Additional Results of Global Primary Biliary Cirrhosis Study Group Analysis to be Presented at AASLD Annual Meeting," *PR Newswire*, October 1, 2013. The 8-K and S-1 filed by Intercept on October 1, 2013 were accepted at 4:05 PM ET and 4:07 PM ET, respectively. *See* the SEC Edgar website.

[60] Feinstein Reply Declaration, ¶98. According to Thomson Reuters, this report was available at 4:22 PM ET on April 22, 2014.

[61] Feinstein Reply Declaration, ¶82 (Emphasis added.)

[62] Feinstein Reply Declaration, ¶82.

[63] Feinstein Reply Declaration, ¶87.

analysis "cannot differentiate with any degree of certainty whether it was news (stale or otherwise) or alternative random volatility that caused the stock price movement."[64] However, his criticism is invalid. The statistical inference from a 95% confidence level on any given day is that it is 95% likely that the stock price movement on that day was due to something company-specific as opposed to sheer chance.[65] I concluded using a 95% confidence level that the statistically significant stock price reaction I observed on the stale news days I identified resulted from the re-release of stale news. Random volatility does not undermine my confidence. The concept of random volatility merely reflects that the most Dr. Feinstein or I can opine, after analyzing the news that was disclosed on given days, is that there is a 95% chance that the reaction was not random.[66] Random volatility applies to Dr. Feinstein's event study in the same manner.

25. Further, the recurring and consistent pattern of stock price reactions that I observed on the stale news days,[67] and the academic literature that shows stocks respond to stale news,[68] in addition to my analysis of all the news disclosed on the stale reaction days and the knowledge that there is only a 5% chance that the statistically significant returns were random, support my conclusion that Intercept's stock price actually responded to the stale news announcements, and that the observed returns were not purely due to chance.

VII. The Goldfeld-Quandt Test is Appropriate

26. The statistical significance of the residual stock returns from Dr. Feinstein's event study is based on the assumption that the volatility of Intercept's stock returns was constant

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[64] Feinstein Reply Declaration, ¶83.
[65] Gompers Deposition, 273:16-274:11.
[66] Gompers Deposition, 273:16-274:11.
[67] I note that on the three stale news days I identified (10/1/13, 12/20/13, 4/22/14), in addition to the second day in each of Dr. Feinstein's event windows, Intercept's stock price moved in a direction consistent with the stale news.
[68] Huberman, G. and T. Regev (2001), "Contagious Speculation and a Cure for Cancer: A Nonevent That Made Stock Prices Soar," *The Journal of Finance*, 56(1), pp. 387-396; Marshall, B. et al. (2014), "Sell the rumour, buy the fact?" *Accounting & Finance*, 54(1), pp. 237-249; Tetlock, P. (2011), "All the News That's Fit to Reprint: Do Investors React to Stale Information?" *The Review of Financial Studies*, 24(5), pp. 1481-1512.

throughout his Examination Period.[69] However, the pattern of Intercept's stock returns during Dr. Feinstein's Examination Period suggested that this assumption was not valid, i.e., Intercept's stock returns appeared to be more volatile after the Class Period compared to the period before.[70] Thus, I performed a Goldfeld-Quandt test to determine whether there was a statistically significant change in the volatility of Intercept's returns before and after the Class Period.[71] This test is the appropriate test for this purpose.

27. Dr. Feinstein criticizes my use of a Goldfeld-Quandt test by claiming that it "is not the most commonly conducted test for a changing volatility."[72] He proposes two other statistical tests, a Chow test and a Breusch-Pagan test, for this purpose, yet neither of these is appropriate to test whether the volatility of Intercept's stock returns changed significantly after the Class Period. The Chow test, in this case, would show if the relationship between Intercept's stock returns and market and industry returns changed significantly after the Class Period, not if the volatility of Intercept's stock returns changed.[73] In fact, there would have to be no change in the volatility of Intercept's stock returns for the results of the Chow test to be meaningful.[74] The Breusch-Pagan test would determine if the volatility of Intercept's stock returns changed as a result of changes in market or industry returns.[75] Again, it would not show if the volatility of Intercept's stock returns changed after the Class Period independent

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[69] Gompers Initial Report, ¶67.

[70] Gompers Initial Report, ¶67; Gompers Deposition, 153:6-154:10.

[71] Kennedy, P. (2008), *A Guide to Econometrics, Sixth Edition*, Blackwell Publishing, p.116. "For the Goldfeld-Quandt test, we assume that the observations can be divided into two groups in such a way that under the hypothesis of [constant volatility], the [volatility of residuals] would be the same in the two groups, whereas under the alternative, the [volatility of residuals] would differ systematically." Greene, W. (2000), *Econometric Analysis, Fourth Edition*, Prentice Hall, p. 509.

[72] Feinstein Reply Declaration, ¶44.

[73] Kennedy, P. (2008), *A Guide to Econometrics, Sixth Edition*, Blackwell Publishing, p. 99.

[74] *See* Greene, W. (2000), *Econometric Analysis, Fourth Edition*, Prentice Hall, p. 292; Wooldridge, J. (2009), *Introductory Econometrics: A Modern Approach, Fourth edition*, South-Western Cengage Learning, p. 245.

[75] Kennedy, P. (2008), *A Guide to Econometrics, Sixth Edition*, Blackwell Publishing, p.116-117; Wooldridge, J. (2009), *Introductory Econometrics: A Modern Approach, Fourth edition*, South-Western Cengage Learning, p. 273. In the context of Dr. Feinstein's event study, this test would only show whether or not the volatility of Intercept's stock returns was unchanged during Dr. Feinstein's Examination Period, assuming that the volatility is impacted by the market and industry returns.

of market and industry returns.

28. Lastly, contrary to Dr. Feinstein's assertion, my implementation of the Goldfeld-Quandt test did control for the allegation-related dates by including a dummy variable for each date.[76] Dr. Feinstein also claims that he "re-ran [my] test, moving the sub-period division point one day earlier" and "by making this one adjustment, the statistical significance that [I] found disappears."[77] I also re-ran the Goldfeld-Quandt test by moving the sub-period division point one day earlier and I find that the difference in volatility remains statistically significant at the 2% level.

29. I declare under penalty of perjury that the foregoing is true and correct.

Executed this 10th of November, 2015

Paul A. Gompers

[76] Feinstein Reply Declaration, ¶¶45-46. Gompers Initial Report, Exhibit 3.
[77] Feinstein Reply Declaration, ¶49.